

Red Wolf Recovery Program



Photo credit: Ryan Nordsven/USFWS

4th Quarter Report

July - September 2011

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www.fws.gov/redwolf



trackthepack.blogspot.com



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The Red Wolf Recovery Program

The red wolf (*Canis rufus*) is one of the most endangered canids in the world. Once occurring throughout the eastern and south-central United States, red wolves were decimated by predator-control programs and the loss and alteration of habitats. By the 1970s, these activities had reduced the red wolf population to a small area along the Gulf coast of Texas and Louisiana. To protect the species from extinction, the U.S. Fish and Wildlife Service initiated efforts to locate and capture as many red wolves as possible for the purposes of establishing a program to breed the species in captivity and one day reintroduce the species into a portion of its former range. More than 400 canids were captured in coastal areas of Texas and Louisiana, but only 17 were identified as pure red wolves. Fourteen of these wolves would become the founding members of the captive-breeding program and the ancestors of all red wolves existing today.

The first litter of red wolves born in captivity occurred in 1977. Within a few years red wolves were successfully reproducing in captivity, allowing the U.S. Fish and Wildlife Service to consider reintroducing the species in the wild. In 1987, four male-female pairs of red wolves were released in Alligator River National Wildlife Refuge (ARNWR) in northeastern North Carolina and designated as an experimental population. Since then, the experimental population has grown and the recovery area expanded to include four national wildlife refuges, a Department of Defense bombing range, state-owned lands, and private lands, encompassing about 1.7 million acres. However, interbreeding with the coyote (a species not native to North Carolina) has been recognized as a threat affecting the restoration of red wolves. Currently, adaptive management efforts are making progress in reducing the threat of coyotes to the red wolf population in northeastern North Carolina. Other threats, such as habitat fragmentation, disease, and anthropogenic mortality, are of concern in the restoration of red wolves. Efforts to reduce the threats are presently being explored.

Program Objectives

The current recovery plan (U.S. Fish and Wildlife Service, 1990) specifies the following objectives:

- 1) Establish and maintain at least three red wolf populations via restoration projects within the historic range of the red wolf. Each population should be numerically large enough to have the potential for allowing natural evolutionary processes to work within the species. This must be paralleled by the cooperation and assistance of at least 30 captive-breeding facilities in the United States.
- 2) Preserve 80% to 90% of red wolf genetic diversity for 150 years.
- 3) Remove threats of extinction by achieving a wild population of approximately 220 wolves and a captive population of approximately 330 wolves.
- 4) Maintain the red wolf into perpetuity through embryo banking and cryogenic preservation of sperm.

The Red Wolf Population

We estimate between 110 and 130 red wolves in the Red Wolf Recovery Area, but for the purposes of this report all population figures are comprised only of known wolves (i.e., wolves that are regularly monitored through either a functioning radio-collar or surgically implanted abdominal radio transmitter). Additional wolves are likely present, but have not been captured/radio-collared or their continued presence otherwise confirmed.

Population and Territory Status

A total of 76 known red wolves occupied the Red Wolf Recovery Area (i.e., 1.7 million acres in five counties in northeastern North Carolina) at the end of the fourth quarter of our fiscal year 2011 (FY 11). The population includes 32 packs (totaling 64 wolves) with 11 breeding pairs. An additional 12 wolves are not known to be associated with a pack. [A pack is defined as a known wolf maintaining an established territory who is either currently associating with, or is known to have associated with, another wild canid inhabiting the same territory.]

The Red Wolf Recovery Program documented 11 litters (totaling 46 pups) born in the Red Wolf Recovery Area during the 2011 whelping season. Two pups born in captivity at Miller Park Zoo (Bloomington, IL) were fostered into a wild litter. Pups born during the 2011 whelping season are not included in the reported population numbers.

Wolf Pairings

One breeding pair was lost as a result of the death of the breeding female, and one breeding pair was formed during the quarter.

Wolf Captures and Radio Telemetry Marking

The Red Wolf Recovery Program did not initiate any trapping during the quarter.

Dispersals

There were no known dispersals during the quarter.

Mortalities

Four known wolves (2 males, 2 females; 3 adults, 1 juvenile) from the Red Wolf Recovery Area died during the quarter. In all four cases, the immediate cause of death could not be determined. Necropsies will be performed to determine cause of death.

Disappearances

The Red Wolf Recovery Program lost radio contact with an adult female wolf during the quarter.

Pack Summaries

The Pack Summaries section has been indefinitely discontinued due to recent events and current circumstances involving the apparent illegal take of red wolves within the Red Wolf Recovery Area.

Collaborations

Research

The Red Wolf Recovery Program provided financial and in-kind support for collaborative research with scientists at other institutions, including universities, interagency divisions, and non-government research organizations. These investigations required project staff to assist outside researchers and graduate students in their efforts to better understand red wolf ecology, ecosystem function, and conservation efforts.

Project Title: Inbreeding avoidance in red wolves.

Graduate Student: Kristin Brzeski (PhD student)

Committee Chair/Principal Investigator: Sabrina Taylor, PhD, Louisiana State University

Project Title: Identifying management procedures to reduce red wolf-coyote interactions in eastern North Carolina.

Graduate Student: Joseph Hinton (PhD student)

Committee Chair/Principal Investigator: Michael Chamberlain, PhD, University of Georgia

Project Title: Use of stable isotope analysis to elucidate predation patterns of sympatric canids.
Graduate Student: Anne-Marie Hodge (MS student)
Committee Chair/Principal Investigator: Brian Arbogast, PhD, University of North Carolina at Wilmington

Project Title: Dietary overlap between red wolves (*Canis rufus*) and coyotes (*Canis latrans*) in Eastern North Carolina.

Graduate Student: Justin McVey (MS student)
Committee Chair/Principal Investigator: Chris Moorman, PhD, North Carolina State University

Project Title: Evaluating potential effects of widening US Highway 64 on red wolves, Washington, Tyrrell, and Dare Counties, North Carolina.

Graduate Student: Christine Proctor (PhD student)
Committee Chair/Principal Investigator: Michael R. Vaughan, PhD, Virginia Polytechnic Institute and State University (Virginia Tech)

Project Title: Sperm morphology and motility of the red wolf (*Canis rufus*).

Graduate Student: n/a

Committee Chair/Principal Investigators: Albrecht Schulte-Hostedde, PhD, Laurentian University, and Gabriela Mastromonaco, PhD, Toronto Zoo

Publications

The following publications have gone to print in this quarter. A complete list of publications related to red wolves can be found at <http://www.fws.gov/redwolf/biblio.html>.

Karlin, M., and J. Chadwick. 2011. Measures of space use and association of two unrelated male red wolves in a shared area. *Mammal Study* 36:147-153.

Schneider, J.N., and R.E. Anderson. 2011. Tonal vocalizations in the red wolf (*Canis rufus*): Potential functions of nonlinear sound production. *Journal of the Acoustical Society of America* 130(4): 2275-2284.

Presentations

No presentations by collaborators were reported during this quarter.

Staff and Volunteers

The Red Wolf Recovery Program employs eight full-time staff, including the program coordinator, four wildlife biologists, a biological technician, a public affairs/outreach coordinator, and an administrative assistant. The public affairs/outreach coordinator and administrative assistant positions are currently vacant. The Red Wolf Recovery Program also benefits from an unpaid intern (Caretaker).

Outreach

Staff from the Red Wolf Recovery Program conduct presentations and attend events to inform and educate the public on the conservation needs of the red wolf and the restoration efforts of the Red Wolf Recovery Program. As part of our effort to assist educators, red wolf “discovery boxes” that include materials about the red wolf are distributed to educational facilities. The distribution of discovery boxes is managed by the Red Wolf Coalition. Requests for discovery boxes should be made to kwheeler@redwolves.com.

The Red Wolf Recovery Program also seeks to achieve a quality visitor and participant experience in the U.S. Fish and Wildlife Service’s priority recreational uses on National Wildlife Refuges. Our outreach

efforts focus on four of the six program elements, including wildlife observation, wildlife photography, environmental education, and interpretation, and are conducted frequently in partnership with ARNWR and PLNWR educators and volunteers.

Presentations

<u>Date</u>	<u>Location</u>	<u>Audience</u>	<u>Length</u>	<u>Attendance</u>	<u>Presenter</u>
July 21-22	Roanoke, VA	Red Wolf SSP	1 hr	~20	D. Rabon

Howlings

<u>Date</u>	<u>Location</u>	<u>Event</u>	<u>Length</u>	<u>Attend</u>	<u>Presenter</u>
July 6	ARNWR	Summer Howling	2 hrs	82	M. Dreibelbis D.J. Sharp
July 13	ARNWR	Summer Howling	2 hrs	64	M. Dreibelbis D.J. Sharp
July 20	ARNWR	Summer Howling	2 hrs	55	M. Dreibelbis D.J. Sharp
July 27	ARNWR	Summer Howling	2 hrs	78	M. Dreibelbis D.J. Sharp
August 3	ARNWR	Summer Howling	2 hrs	119	A. McGarry D.J. Sharp
August 10	ARNWR	Summer Howling	2 hrs	95	A. McGarry D.J. Sharp
August 17	ARNWR	Summer Howling	2 hrs	99	A. McGarry D.J. Sharp
August 24	ARNWR	Summer Howling	2 hrs	102	A. McGarry D.J. Sharp
September 1	ARNWR	Summer Howling	2 hrs	17	A. McGarry D.J. Sharp

Website / Social Media

The Red Wolf Recovery Program recently launched Facebook and Flickr internet pages. Our Facebook page connects our program with “friends” from around the world and informs them of the conservation efforts of the Red Wolf Recovery Program. The Facebook page can be found at www.facebook.com/redwolfrecoveryprogram. Our Flickr page provides a site for users to view and download high resolution pictures related to red wolves and the Red Wolf Recovery Program. Our Flickr page can be found at www.flickr.com/photos/trackthepack.

The Red Wolf Recovery Program also has a weblog that highlights the efforts of the Red Wolf Recovery Program staff in the conservation of the red wolf. The weblog combines text, images, videos, and links to other media related to its topic. The content includes educational, informational, and general journal entries written by program staff, and allows readers to leave comments in an interactive format. The weblog can be found at trackthepack.blogspot.com.

Media Inquires

The Red Wolf Recovery Program responded to numerous media inquiries during this quarter, including science writer DeLene Beeland (www.delene.us), who is writing a book about red wolves.

Partnerships

Species Survival Plan (SSP)

Species Survival Plan (SSP) captive facility coordination is based at Point Defiance Zoo & Aquarium (PDZA) in Tacoma, Washington. The SSP currently coordinates 40 captive red wolf sites at zoos and nature centers housing about 178 wolves. The following information is based on activities completed or conducted by the SSP Coordinator during the quarter reported. Additional information on the SSP can be found at www.fws.gov/redwolf or www.pdza.org.

The SSP Coordinator organized and attended the Red Wolf SSP master plan meeting at Mill Mountain Zoo (Roanoke, VA) on July 21-22, 2011. Annual breeding and transfer recommendations for the upcoming breeding season were drafted and distributed. Following a 30-day review period by cooperating institutions, modifications to the document were incorporated then finalized and distributed. The SSP Coordinator extends his appreciation for all who were able to attend and participate in the master plan meeting, and a very special thanks to the staff at Mill Mountain Zoo for hosting the meeting.

The SSP Coordinator coordinated the development of a new red wolf brochure. The brochures were printed and delivered to the USFWS and the SSP cooperating facilities for distribution. Funding for the brochure was provided by Point Defiance Zoological Society (Tacoma, WA), North Carolina Museum of Life and Science (Durham, NC), Knoxville Zoo (Knoxville, TN), and the USFWS Red Wolf Recovery Program.

Island Propagation Sites

The U.S. Fish and Wildlife Service utilizes island sites to propagate red wolves and contribute to the restoration of a wild red wolf population, primarily by inserting island-born wolves into the wild population as a means to augment the wild red wolf gene pool with “under-represented” genes from the captive population. Currently, the Red Wolf Recovery Program cooperates with St. Vincent National Wildlife Refuge in maintaining a breeding pair of red wolves on an island site.

Red Wolf Coalition

The Red Wolf Coalition (RWC) is a non-profit organization based in northeastern North Carolina that advocates for the long term survival of red wolf populations through education and outreach. The RWC’s educational program teaches students about the history, biology, and status of the red wolf recovery program, and accompanies students to ARNWR and PLNWR to learn about the habitat of the red wolf. The RWC currently employs an Executive Director and has a membership of approximately 400 individuals and organizations. Additional information on the RWC can be found at www.redwolves.com.

The Executive Director reported conducting two red wolf education programs during the quarter. In-person presentations were given to 15 home-schooled children from Raleigh, NC, at PLNWR and 72 students from North Carolina State University in Raleigh, NC. In addition, the Executive Director hosted 57 people during the quarter that visited the RWC office (Columbia, NC) to inquire about red wolves. The Executive Director also reported mailing educational “discovery boxes” containing a red wolf pelt and skull, a coyote pelt and skull, a radio telemetry collar, the Far Traveler teacher curriculum, a howling CD, red wolf tear sheets, the “Recovering a species” video, and RWC and FWS red wolf brochures to a school

in Mount Olive, NC, and a wildlife center in Texas. Lastly, the Executive Director is mentoring a high school senior from Creswell, NC, in her senior project on red wolves.

The Executive Director reported that she has obtained bids for the construction of the red wolf viewing facility at PLNWR in Columbia, NC. The red wolf viewing facility will include the construction of several enclosures to house red wolves, including a natural environment enclosure designed to showcase red wolves to the visiting public. Funding for the red wolf viewing enclosure was provided, in part, through a grant from the USDA Rural Development in the amount of \$75,000. Additional information on the red wolf viewing facility can be found at (www.crowdrise.com/enclosure/fundraiser/redwolfcoalition).

Announcements

The Red Wolf Recovery Program congratulates Melissa Karlin for successfully defending her dissertation and completing her PhD degree in Infrastructure and Environmental Systems in the Department of Geography and Earth Sciences at the University of North Carolina at Charlotte. Melissa's dissertation is entitled "The endangered red wolf (*Canis rufus*): spatial ecology of a critically imperiled species in a human-dominated landscape." John Chadwick, PhD, served as Melissa's advisor and Committee Chair.

The U.S. Fish and Wildlife Service is investigating the suspected illegal take of several red wolves found dead in the Red Wolf Recovery Area (Dare, Hyde, Tyrrell, Washington, and Beaufort Counties, NC). Contributions from various organizations and individuals have resulted in a reward of up to \$15,000 for information directly leading to an arrest, a criminal conviction, a civil penalty assessment, or forfeiture of property on the subject or subjects responsible for the suspected unlawful take of these red wolves. The red wolf is protected under the Endangered Species Act. The maximum criminal penalties for the unlawful taking of a red wolf are one year imprisonment and \$100,000 fine per individual. Anyone with information on the deaths of red wolves is urged to contact Special Agent Sandra Allred at (919) 856-4786 or North Carolina Wildlife Resources Commission Officer Robert Wayne at (252) 216-8225.